

# FlexDrop Plus Non-Contact Dispenser specifications sheet.

## Description

The FlexDrop Plus Non-contact Dispenser changes the game for simple, low volume dispensing workflows. Where traditional liquid handlers require expertise and proprietary programming, the FlexDrop Plus instrument can be set-up and used in minutes. It can be programmed and run for small volume assays quicker and more reliably than traditional methods. It provides rapid, precise, and flexible dispensing from up to 96-source wells into 96, 384, or 1536 well plates with a dead volume of <math><1 \mu\text{L}</math>. This platform redefines low volume dispensing automation by providing any lab with the means to precisely dispense as low as 8 nL with the push of a button.

### Rapid, consistent, and flexible dispensing

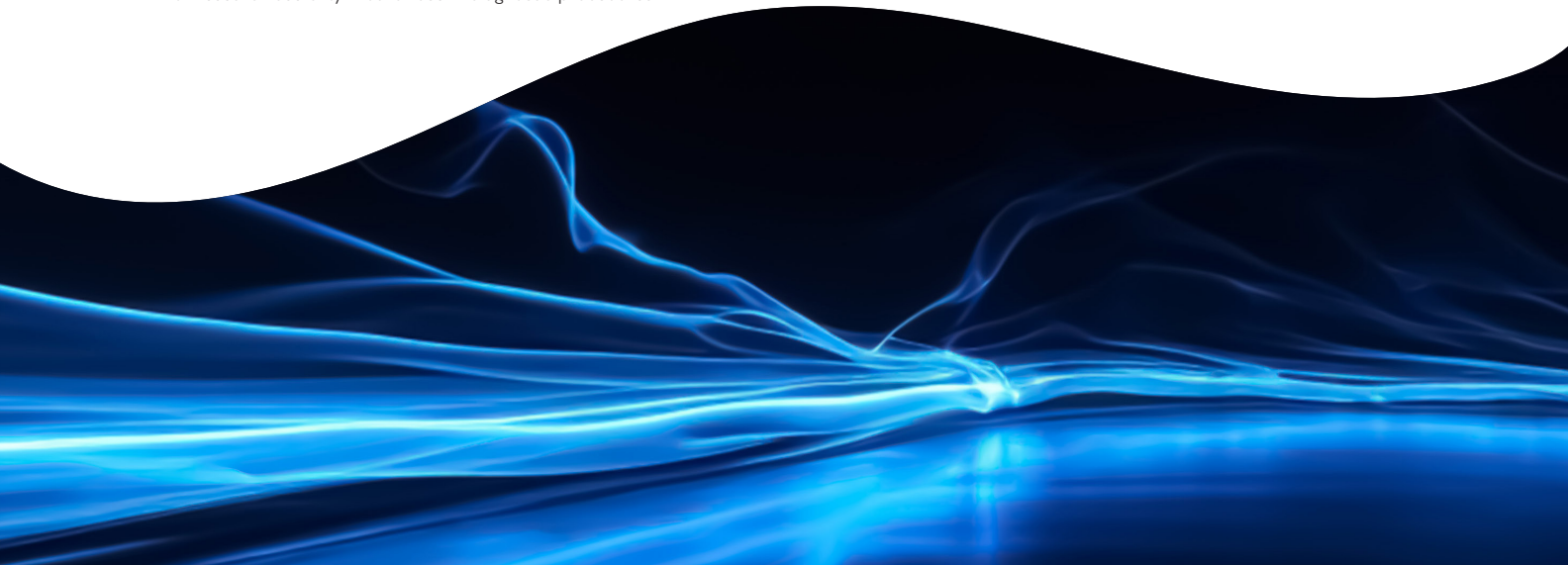
Generating individual droplets between 8 to 50 nanoliters (nL) in size at 100 droplets per second, researchers can quickly automate their low volume dispensing workflows with ease. The FlexDrop Plus Non-Contact Dispenser uses positive pressure and droplet verification to achieve highly reliable and accurate liquid transfers.

- A dead volume of <math><1 \mu\text{L}</math> to conserve precious reagents
- Built-in droplet verification to ensure experimental repeatability
- The ability to transfer any volume from any source well to any destination well for seamless gradient formation in the context of assay development, optimization, or high-throughput screening
- Automation and robot compatible
- Less than 5% CV at 50 nL volume



FlexDrop™ Plus Non-Contact Dispenser (CLS159493)

For research use only. Not for use in diagnostic procedures.

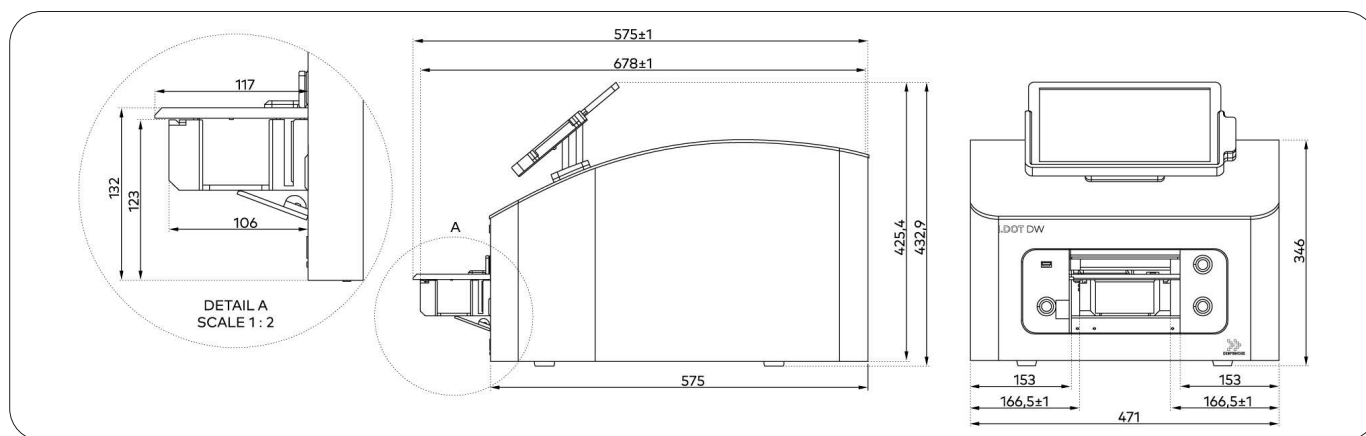


## Physical Specifications

Dimensions	Size
L x W x H	471 mm x 575 mm x 433 mm
Display	12.3" Touch Screen Monitor
Weight	45kg / 99.2 lbs
Case	Powder coated aluminum, EN-AW 5754, RoHS compliant
Minimal Clearance Distance	100 mm

## Operating Specifications

Dimensions	Size
Power supply	AC 100-240V, 50/60Hz
Average power consumption	120 W
External air pressure supply	3-10 bar / 40-145 psi / filtered 20 µm, oil-free optional compressor available
Connectivity	3x USB 2.0, 1x Ethernet (LAN, RJ45)
Operating temperature	18°C - 25°C
Operating humidity	30% RH - 65% RH
Protection class	I



## Dispensing specifications: Any well to any well

Dispensing	Technical Data
Liquid type compatibility	Viscosity range: 0.55 mPa*s (Methanol) - 23.32 mPa*s (65% Glycerol) Including but not limited to: PCR Master Mixes, Enzyme Stocks, PCR Primers, Nucleic Acid Solutions, Magnetic and Resin-based Beads, Antibody Dilutions, DMSO, Ethanol
Target applications	Including but not limited to: (RT-)PCR & Digital PCR Set-Up, NGS Sample Prep Assay Development & Optimization, Dose Response Curves, Synthetic Biology, Drug Discovery, Proteomics
Dispensing resolution	0.1 nL
Accuracy*	< ± 5% for dispensing volumes above 50 nL (H <sub>2</sub> O)
Precision*	< 5% for dispensing volumes above 50 nL (H <sub>2</sub> O)
Maximum dispensing volume	30 µL
Dispensing technology	Non-contact dispensing
Dispensing channels	8 parallel channels with independent volume control
Combinatorial dispensing	Enables any source well to any target well liquid dispensing
Dispensing speed	Dispenses 10 nL H <sub>2</sub> O across a 96-well plate in 10 seconds, across a 384-well plate in 20 seconds and across a 1536-well plate in 80 seconds.
Volume verification	Independent optical sensor detects and reports each dispensed droplet (overall drop count accuracy per run: 99%)
Target labware compatibility	Any ANSI-SLAS (SBS) compatible well plate with a maximal height of 50 mm and a density of up to 1536 wells

\* Measured under lab conditions

## Minimum Droplet Volumes\* [nL]

	MeOH / 0.55 mPa*s	0.6 mPa*s	0.75 mPa*s	0.89 mPa*s	H <sub>2</sub> O / 1 mPa*s	10% Gly / 1.38 mPa*s	25% Gly, DMSO / 2.42 mPa*s	33% Gly / 3.42 mPa*s	39% Gly / 5.63 mPa*s	43% Gly / 5.63 mPa*s	50% Gly / 8.37 mPa*s	60% Gly / 16.06 mPa*s	65% Gly / 23.32 mPa*s
S.60 Plate	6.2		5.4	3.9	3.3	2.55							
S.100 Plate	11.1	16.9	13.6	10.5	9.9	9.4	10.8	18.9	16.6	15.9			
S.200 Plate								48.5		45.3	37.6	30.8	39.1

\* Minimal Droplet Volumes are liquid type and source plate dependent. Measured under lab conditions.

## Consumables and Ordering Information

Plates	Specifications
Source plate format	96-well plate
Source well capacity	80 µL
Recommended max. source well fill volume	70 µL
Dead volume	< 1 µL (H <sub>2</sub> O)
Material	Polypropylene
Source well orifice	60 µM, 100 µM, and 200 µM
Storage Conditions	Lidded source plates containing DMSO solution can be stored in a dry (1% RH), low-oxygen (1% O <sub>2</sub> ) atmosphere

Part Numbers	Description
CLS159493	FlexDrop Plus dispenser (110-230 VAC)
CLS155021	Air Compressor, 115V
CLS155541	Air Compressor, 220V
CLS156444	FlexDrop Source Plates, 80 µL, 100 µM pore size, Qty 20
CLS156818	FlexDrop Source Plates, 80 µL, 200 µM pore size, Qty 20

## Automation & Integration Capabilities (optional automation kit)

- SiLA2 API enabling integration with any third-party scheduling software, automation guide available
- Source and target tray optimized for robotic arm access and advanced robustness for automation.
- Source and target labware gripping options: landscape top grip or landscape side grip

## Compliance

- CE, CB, cTÜVus 1:2010/AMD1:2016, UL 61010-A1:2019/AC:2019) EN61000-4-3:2006 + 6:2014, EN61000-4-(EN 61010-1:2010/A1:2019, IEC 61010-1:2010, IEC 61010-1:2012/R:2019-07 CSA C22.2 No. 61010-1:2012/A1:2018-11)
- Low voltage Directive 2014/35/EU(EN61010-1:20210 + A1:2019+
- EMC Directive 2014/30/EU (EN61000-3-2:2014, EN61000-4-2:2009, A1:2008+ A2: 2008, EN61000-4-4- 2012, EN61000-4-5:2014, EN61000-4-8:2010, EN61000-4-11:2004, EN55011:2016, EN55032:2016)
- RoHS Directive 2011/65/EU EN IEC 63000:2018
- REACH Regulation (EC) No. 1907/2006
- ISO 9001:2015

## Optional Upgrade to support 500 $\mu$ L source well plates

For applications that require large source volumes of up to 500  $\mu$ L per well, the FlexDrop Plus Non-Contact Dispenser can be upgraded to allow the use of 500  $\mu$ L, 100  $\mu$ M source well plates.

Please note:

- Once upgraded, the unit can no longer use the 80  $\mu$ L source well plates.
- The 500  $\mu$ L version has different specifications, as shown below.

### Minimum Droplet Volumes\* [nL]

	H <sub>2</sub> O / 1 mPa*s	10% Gly / 1.38 mPa*s	20% Gly / 1.9 mPa*s	25% Gly, DMSO / 2.42 mPa*s	33% Gly / 3.42 mPa*s	139% Gly / 5.63 mPa*s	43% Gly / 5.63 mPa*s
L100 Plate	17.9	21.4	19.1	18.3	20.9	22.8	21

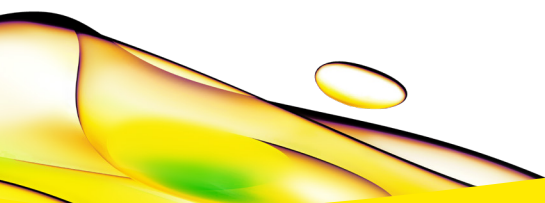
### Dispensing Specifications

Dispensing	Specifications
Accuracy*	< $\pm$ 8% for dispensing volumes above 50 nL (H <sub>2</sub> O)
Precision*	< 8% for dispensing volumes above 50 nL (H <sub>2</sub> O)

\* Minimal Droplet Volumes are liquid type and source plate dependent. Measured under lab conditions.

## Ordering Information

Part Numbers	Description
CLS157897	FlexDrop Upgrade to 500 $\mu$ L Kit, convert from 80 $\mu$ L to use 500 $\mu$ L source plates
CLS156019	FlexDrop Source Plates, 500 $\mu$ L, 100 $\mu$ M pore size, Qty 10



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